

WU : Factor

$$1) \quad 2x^3 - 6x = \boxed{2x(x^2 - 3)}$$

$$2) \quad x^2 - \overset{+}{\downarrow} 7x + \overset{x}{\downarrow} 6 = \underline{(x-1)(x-6)}$$

$$\textcircled{-1 \quad -6}$$

$$\begin{array}{cc} 1 & 6 \\ -2 & -2 \\ -2 & -2 \end{array}$$

Review

$$a=x \quad b=9$$

$$\textcircled{1} \quad x^2 - 81 = \boxed{(x+9)(x-9)}$$

$$a^2 - b^2 = (a+b)(a-b)$$

$$\textcircled{2} \quad x^2 - 24x + 144 = (x-12)(x-12)$$

$\begin{matrix} 12, 12 \\ -12, -12 \end{matrix}$

$$= \boxed{(x-12)^2}$$

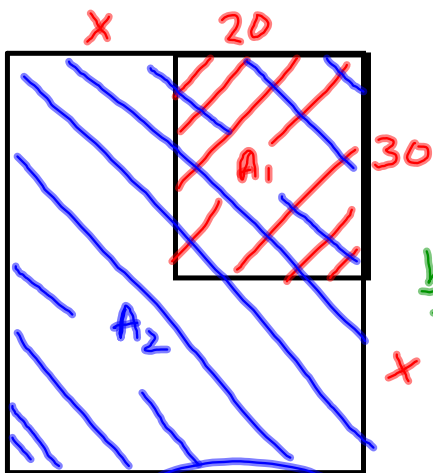
Solve the equation

$$0 = x^2 - 24x + 144$$

$$0 = (x-12)(x-12)$$

$$\boxed{x=12}$$

$$\begin{matrix} \#67 \\ p^*g^* 257 \end{matrix}$$



$$67) a) A = l \cdot w$$

$$A_1 = 20 \cdot 30 = 600$$

$$b) A_2 = (20+x)(30+x)$$

$$c) A_2 = 600 + 464$$

$$A_2 = 1064$$

$$1064 = (20+x)(30+x)$$

$$\begin{array}{r} 1064 \\ - 1064 \\ \hline \end{array} = 600 + 20x + 30x + x^2$$

$$0 = x^2 + 50x - 464$$

$$0 = (x+58)(x-8)$$

$$x = -58$$

$$x = 8 \text{ ft}$$

$$\begin{array}{l} 1, -464 \\ 2, -232 \\ \vdots \\ 8, -58 \\ -8, 58 \end{array}$$

44-46
p 256

make $y=0$ and solve

$$44) y = x^2 + 6x + 8$$

$$0 = x^2 + 6x + 8$$

$$0 = (x+2)(x+4)$$

$$x = -2$$

$$x = -4$$

$$45. 0 = x^2 - 8x + 16$$

$$0 = (x-4)(x-4)$$

$$x = 4$$

$$46. y = x^2 - 4x - 32$$

$$0 = (x-8)(x+4)$$

$$x = 8 \quad x = -4$$

Factor a quadratic if $a > 1$

$$y = ax^2 + bx + c$$

\uparrow

Slip, Slide & Divide Method

Ex | Factor $\boxed{\frac{5x^2}{a} - \frac{17x}{b} + \frac{6}{c}}$

① Slip... multiply $a \cdot c$ & replace c

$$(5)x^2 - 17x + 6$$

$$x^2 - 17x + 30$$

5

cloud....
we don't
want to
forget it.

② slide ... factor new expression

$$x^2 - 17x + 30 = (x - 2)(x - 15)$$

③ Divide ... by the "cloud" number

$$\left(x - \frac{2}{5}\right)\left(x - \frac{15}{5}\right)$$
$$\left(x - \frac{2}{5}\right)(x - 3)$$

④ clean up expression... move fractions

$$\boxed{(5x - 2)(x - 3)}$$

$$\left(x - \frac{2}{5}\right)(x - 3)$$
$$\begin{array}{l} \textcircled{x^2} + 3x - \frac{2}{5}x + \frac{6}{5} \\ 5x^2 - 17x + 6 \end{array}$$

$$(5x - 2)(x - 3)$$
$$5x^2 - 15x - 2x + 6$$
$$\boxed{5x^2 - 17x + 6}$$

Ex

$$3x^2 + 20x - 7$$

$$x^2 + 20x - 21$$

$$(x + \frac{1}{3})(x + \frac{21}{3})$$

$$(3x - 1)(x + 7)$$

p263 #3-5

☆☆☆
Concensgram

slip, slide, divide.

Get it

kinda

No!

